

REMARKS

Applicants respectfully request further examination and reconsideration in view of the above amendments and the comments set forth fully below. Claims 13-34 were pending. Within the Office Action, Claims 13-34 have been rejected. By the above amendment, Claims 22 and 25 have been amended. Accordingly, Claims 13-34 are now pending.

Rejections Under 35 U.S.C. § 112

Within the Office Action, Claims 22 and 25 have been rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Specifically, it is stated within the Office Action that there is no antecedent basis for the “first conducting layer” in Claim 22 and the “second conducting layer” in Claim 25. By the above amendment, Claim 22 has been amended to replace the “first conducting layer” with the “first secondary gate,” which has an antecedent basis in Claim 15. By the above amendment, Claim 25 has been amended to replace the “second conducting layer” with the “second secondary gate,” which has an antecedent basis in Claim 15. Accordingly, Claims 22 and 25 are definite and do particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Rejections Under 35 U.S.C. § 102

Within the Office Action, Claims 13-34 have been rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,693,549 to Kim (hereinafter referred to as “Kim”). The applicants respectfully disagree. Within the Office Action, it is stated that “Kim shows in Fig. 3, an insulating substrate (20), source/drain regions (21-2) and (21-3), a primary insulating layer (22) disposed on the source/drain layers, a primary gate (23) disposed on the primary insulating layer, **a secondary insulating layer (25) disposed on the primary insulating layer.** . . . “ Kim does not teach that the secondary insulating layer (25) is disposed on the primary insulating layer (22). In Figure 3 of Kim, it is the primary gate (23) that is directly on the primary insulating layer (22). Kim further teaches that the cap oxide film (24) is put on the primary gate (23) and finally the secondary insulating layer (25) is put on the cap oxide film (24). Thus, **a thicker insulating layer**, including primary insulating layer and secondary insulating layer of the present invention, can not be found in the teachings of Kim. Accordingly, as taught within the specification of the

present invention, such a thicker insulating layer can reduce the electric field of the drain region so that the problem of the high off-state leakage current of a thin film transistor is rectified.

[Present Specification, page 9, lines 8-14]

The structure taught by Kim is actually similar to that of the prior art described in the background of the present invention. [Present Specification, page 1, line 20 - page 2, line 9] The lightly doped offset regions (21-2, 21-3, 31-1 and 31-2) taught by Kim are similar to the lightly doped regions 1211 and 1231 of the prior art discussed within the present specification.

Accordingly, these lightly doped regions are used to reduce the electric field of the drain region so as to prevent the leakage current of a thin film transistor. However, a TFT-LCD with lightly doped regions is complex and hard to manufacture. Furthermore, the resistance will increase because of the lightly doped degree. As a result of the series resistance of the drain and source increasing, the operating speed of the device is reduced and the power dissipation is increased. Instead of these lightly doped regions, a thicker insulating layer is employed in the present invention to achieve the same purpose. **The thicker insulating layer** is formed by directly overlapping the primary insulating layer and second insulating layer of the present invention. From the above comparisons, it is believed that the structure of the present invention is different from the teachings of Kim.

The cap oxide film (24) taught by Kim also does not appear in the present invention. Compared with the present invention, it has no extra advantages but increases the complexity of the structure. Therefore, the cost and the manufacturing time of a device as taught by Kim, must increase.

The independent Claim 13 is directed to a structure of a thin film transistor. The structure of Claim 13 comprises an insulating substrate, a source/drain layer disposed on said insulating substrate, a primary insulating layer disposed on said source/drain layer, a primary gate disposed on said primary insulating layer, a second insulating layer disposed on said primary insulating layer and a secondary gate disposed on said secondary insulating layer and insulated from said primary gate via said secondary insulating layer. As discussed above, Kim does not teach a secondary insulating layer disposed on said primary insulating layer. For at least these reasons, the independent Claim 13 is allowable over the teachings of Kim.

Claims 14-26 are dependent on the independent Claim 13. As discussed above, the independent Claim 13 is allowable over the teachings of Kim. Accordingly, Claims 14-26 are all also allowable as being dependent on an allowable base claim.

The independent Claim 27 is directed to a structure of a thin film transistor. The structure of Claim 27 comprises an insulating substrate, a source/drain layer disposed on said insulating

substrate, a primary insulating layer disposed on said source/drain layer, a primary gate disposed on said primary insulating layer, at least a secondary insulating layer disposed on said primary insulating layer and at least a secondary gate disposed on said at least a secondary insulating layer and insulated from said primary gate via said at least a secondary insulating layer. As discussed above, Kim does not teach a secondary insulating layer disposed on said primary insulating layer. For at least these reasons, the independent Claim 27 is allowable over the teachings of Kim.

Claims 28-34 are dependent on the independent Claim 27. As discussed above, the independent Claim 27 is allowable over the teachings of Kim. Accordingly, Claims 28-34 are all also allowable as being dependent on an allowable base claim.

Should the Examiner have any questions or comments, they are encouraged to call the undersigned at (408) 530-9700 to discuss the same so that any outstanding issues can be expeditiously resolved.

Respectfully submitted,
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Dated: July 6, 2004

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